OP06

DETERMINING DAYLIGHT AND VIEW PREFERENCES FROM THE USE OF BLINDS IN APARTMENTS

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Present research focuses on the inhabitants' operation of blinds and curtains in apartments. The objective of the research is to develop a better understanding of how curtains and blinds are operated by the inhabitants in apartments in relation to daylight availability and view, and the possible consequences it has for the inhabitants' health and well-being, and the energy consumption of the buildings. Present research is an important contribution, because of the increased knowledge we have about daylights impact on health and well-being, as well as daylight's and passive solar heating's impact on the energy consumption in buildings. However, it is often seen that curtains or blinds close off new apartment buildings with large glass areas in dense urban context. Such observations indicate that there can be a discrepancy between the intentions of the design team and the needs and perception of the user.

The paper presents the results of a small pilot study of an apartment building in Aalborg based on photographic observations where two facades on a building were under observation. The window layout and the apartment configurations were similar, however, they were pointing towards different contexts and different directions. The observations were made in two separate runs. The first one took place during the course of 6 months and were done on an approximately biweekly basis. There were no strict protocol for the photographs, though all of them were taken around noon due to logistics. In order to incorporate different times of day the second one took place during the course of a week and photographs were taken morning, noon and afternoon. All images were analysed and the use of blinds were manually assessed from the images where three different states were defined – open, half closed, closed. With the current procedure, the research can give an indication of how inhabitants operate the blinds or curtains; however, there is a significant number of uncertainties in relation to both determining whether the curtains or blinds are open or closed and the reason for the state.

The results indicates three things: (1) That there is significant difference in the use of curtains or blinds depending on the context the windows are facing. (2) That the use of curtains or blinds appears to be static, meaning that they appear to be in a more or less permanent position once adjusted by the user and no, or very little, indications of changes due to daylight conditions were seen. (3) The use of photographic observations as a mean to determine the operation of curtains or blinds in apartments gives a range of challenges and the validity, as well as the ethical aspects, requires careful considerations.

From the present study based on photographic observations there is no indication of curtains and blinds being operated based on the available daylight. However, it appears that view and context plays a significant part in the use of blinds or curtains. This should be seen in connection with research in office buildings that shows greater job satisfaction with a natural view as well as research showing that manually operated blinds tends to have a fixed position once adjusted. Another issue that could affect the use blinds or curtains here is the heavy traffic close to the southern façade and the inhabitants' feeling of privacy. Even though the results in the present research is supported by previous research, it is important to be careful not to draw too quick conclusions from the pilot study. The present observations shows that the daylight availability is significant lower towards the busy road than towards the recreational area, thus affecting the possible health and well-being of the inhabitants as well as the energy consumption of the building.

The pilot study was conducted through photographic observations, which has caused some considerations. First, two different runs of observations were made. One spanning half a year to be able to see seasonal changes and another spanning a week to see daily changes. These could have been combined, but logistics and time issues made it impossible in the

current pilot study. Furthermore, the reading of the photograph and the interpretation of the state of use (open, half closed or closed) is difficult due to obstructions in the photographs, as well as reflections of the context, which obscures the reading. Finally yet importantly, there is an ethical dilemma in the use of photographs as they can easily be intruding on the privacy of the inhabitants. Therefore, a balance between photographs that are possible to interpret and the privacy is required. In present pilot study has focused on taking pictures from a distance in order to avoid intruding on the privacy, however as stated above it does make the interpretation difficult in this case.

Present research indicates that the design of windows and facades in the dense city must be considered carefully and that striving towards the large open façades in apartment buildings is not without its challenges. Though, the large facades is intended to give plenty of daylight, which is beneficial for reducing energy used for lighting as well as the health and well-being of the inhabitants, it is seen that the use of blinds and curtains easily conflicts with the intention. Present research supports the findings in office buildings where the operation of blinds appears to be static, as well as it supports previous findings in that the preferred views are towards natural environments and it indicates that the privacy of the inhabitants is also a determinant factor in the operation of blinds. Therefore, it is important to conduct further studies in the area in order to be able to design solutions that supports the user preferences better and through that improves the daylight level and quality as well as better prediction of energy consumption in buildings.